Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently Amended)   A pharmaceutical composition comprising a pharmaceutically acceptable carrier and, as an active ingredient, a compound of the general formula I:

(I)
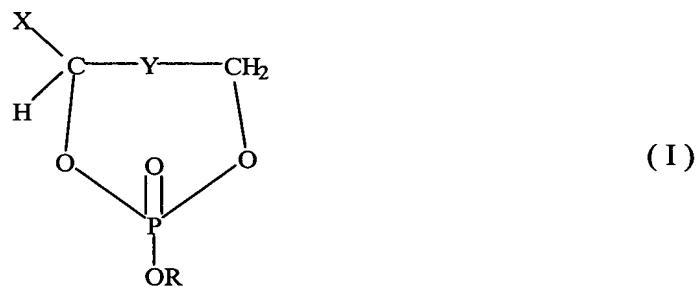
wherein

Y is $-(CH_2)_m-$, $-CH(OH)-$ or $-C(=O)-$, and m is [[0]] $\underline{1}$ - 3;

X is H, alkyl, $-CH_2OH-$, CH_2Oacyl or $-CH_2acyl$; and

R is H, a cation, alkyl or optionally substituted aryl; provided that:

~~(a)   When Y is -(CH₂)ₘ-, m=0, and R is H or cation, X is not CH₂Oacyl; and~~

~~(b)~~   Said compound is not one of

(i)   Phenyl 1,3-cyclic propanediol phosphate,

~~(ii)   Phenyl 1,2 cyclic propanediol phosphate,~~

(~~iii~~ii) Cyclic dihydroxyacetone phosphate,

(~~iv~~iii)   1,3,-cyclic propanediol phosphate

(~~v~~iv)   1,3-cyclic glycerophosphate,

~~(vi) 1,2-cyclic propanediol phosphate,~~

~~(vii) 1,2-cyclic glycerophosphate~~.

2.   (Previously Presented)   A pharmaceutical composition according to Claim 1, wherein said alkyl groups have 1-24 carbon atoms, said acyl groups are aliphatic saturated or unsaturated $C_1 - C_{24}$ acyl groups and said aryl group is a carbocyclic aryl group optionally substituted by $C_1 - C_4$ alkyl, halogen and/or hydroxy.

3.   (Previously Presented)   A pharmaceutical composition according to Claim 2, wherein said acyl groups are derived from natural fatty acids.

4.   (currently amended)   A pharmaceutical composition according to Claim 3, wherein said acyl group is (1) a saturated aliphatic acyl group selected from the group consisting of acetyl, butyryl, caproyl, octanoyl, decanoyl, lauroyl, myristyl, palmitoyl and stearoyl, or (2) an unsaturated aliphatic acyl group selected from the group consisting of palmitoleyl, oleyl, linoleyl, and ricinoleyl.

5.   (Previously Presented)   A pharmaceutical composition according to any one of Claims 1-4, wherein said aryl group is phenyl.

6.   (canceled)

7. (canceled)

8. (Previously Presented) A pharmaceutical composition according to Claim 1, comprising cyclic oleyl lysophosphatidic acid.

9. (Previously Presented) A pharmaceutical composition according to Claim 1, comprising phenyl 1,3-cyclic glycerophosphate.

10. (Previously Presented) A pharmaceutical composition according to Claim 1, comprising phenyl cyclic dihydroxyacetone phosphate.

11. (Previously Presented) A pharmaceutical composition for inducing phosphorylation in intracellular proteins of target cells comprising a pharmaceutically acceptable carrier and, as an active ingredient, a compound of general Formula I of Claim 1.

12. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and, as an active ingredient, a compound of the general Formula I of Claim 1 for promotion of capable of promoting cell differentiation in target cells.

13. (Currently Amended) A pharmaceutical composition for the treatment of malignant diseases and

- 4 -

disorders <u>selected from the group consisting of blood malignancy, prostate cancer and breast cancer,</u> comprising a pharmaceutically acceptable carrier and, as an active ingredient, a compound of the general Formula I of Claim 1 wherein

Y is $-(CH_2)_m-$, $-CH(OH)-$ or $-C(=O)-$, and m is [[0]] <u>1</u> - 3;

X is H, alkyl, $-CH_2OH-$, CH_2Oacyl or $-CH_2acyl$; and

R is H, a cation, alkyl or optionally substituted aryl~~, provided that~~

~~when Y is $-(CH_2)_m-$, m=0, and R is H or cation, X is not CH~~$_2$~~Oacyl,~~

~~wherein said malignant disease or disorder is breast cancer or prostate cancer~~.

14.   (Previously Presented)   A pharmaceutical composition according to Claim 13, wherein said malignant disorder is a blood malignancy.

15.   (Previously Presented)   A pharmaceutical composition according to Claim 14, wherein said blood malignancy is leukemia.

16.   (Previously Presented)   A pharmaceutical composition according to Claim 13, wherein said malignancy is breast cancer.

17. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and, as an active ingredient, a compound as defined in Claim 1, ~~for~~ capable of induction of insulin, human growth hormone or epidermal growth factor signaling.

18. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and, as an active ingredient, a compound of Formula I as defined in Claim ~~13~~ 1, ~~for~~ capable of induction of hormone-like signaling wherein said hormone is selected from the group consisting of insulin, human growth hormone, and epidermal growth factor.

19. (Previously Presented) A pharmaceutical composition according to Claim 17 or 18 wherein said hormone is insulin and the composition is for the treatment of non-insulin-dependent diabetes mellitus (non-IDDM type II diabetes).

20. (currently amended) A pharmaceutical composition according to claim 17 or 18, wherein said hormone is human growth hormone (HGH) and the composition is suitable for the treatment of disorders in which HGH is involved.

21. (currently amended) A pharmaceutical composition according to Claim 17 or 18, wherein said hormone is epidermal growth factor (EGF) and the composition is suitable for the treatment of disorders involving EGF.

22. (Currently Amended) A compound of the formula I:
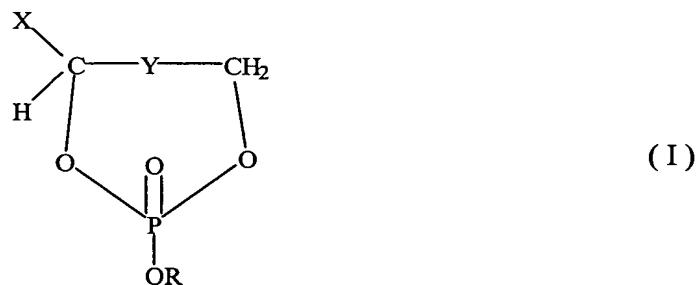
(I)

wherein

Y is $-(CH_2)_m-$, $-CH(OH)-$ or $-C(=O)-$, and m is [[0]] 1 - 3;

X is H, alkyl, $-CH_2OH-$, CH_2Oacyl or $-CH_2acyl$; and

R is H, a cation, alkyl or optionally substituted aryl; provided that:

(a) when Y is $-(CH_2)_m-$, m=0, and R is H or cation, X is not CH₂Oacyl; and

(b) when R is phenyl, Y is not $-(CH_2)_m-$ $-(CH_2)_m-$, wherein m is 0-3; and said compound is not one of

(i) Cyclic dihydroxyacetone phosphate,

(ii) 1,3,-cyclic propanediol phosphate

(iii)   1,3-cyclic glycerophosphate,

~~(iv)   1,2 cyclic propanediol phosphate,~~

~~(v)   1,2 cyclic glycerophosphate,~~

(~~vii~~iv) 2-methoxy-2-oxo-1,3,2-dioxaphospholane.

23.   (currently amended)   A compound of the formula
I:
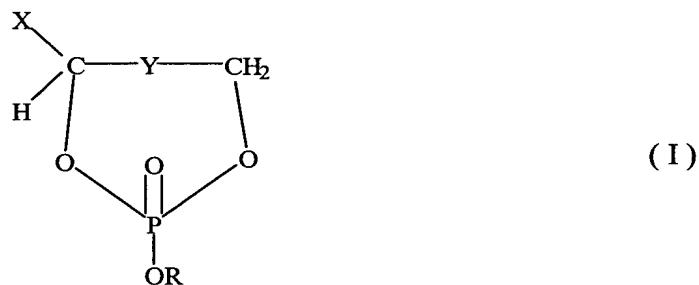
$$
\begin{array}{c}
\text{X} \\
\quad\diagdown \\
\quad\quad\text{C} \!-\!\! \text{Y} \!-\!\! \text{CH}_2 \\
\text{H} \diagup \quad\quad\quad\quad\quad \\
\quad\text{O}\quad\quad\text{O}\quad\quad\text{O} \\
\quad\quad\diagdown\quad\Vert\quad\diagup \\
\quad\quad\quad\text{P} \\
\quad\quad\quad\text{OR}
\end{array}
$$

(I)

wherein

Y is $-(CH_2)_m-$, $-CH(OH)-$ or $-C(=O)-$, and m is [[0]]
1 - 3;

X is H, alkyl, $-CH_2OH-$, CH_2Oacyl or $-CH_2acyl$; and

R is H, a cation, alkyl or optionally substituted
aryl;

provided that when Y is $-(CH_2)_m-$, m=0, and R is H or
cation, X is not CH_2Oacyl; with the exception of the following
compounds:

(i)   compounds wherein Y is $-(CH_2)_m-$, m is 0, X is CH_3,
$-CH_2OH$ or CH_2Oacyl wherein acyl is a saturated
carboxylic acyl with more than 12 carbon atoms, and
R is H or a cation;

- 8 -

(ii) compounds wherein Y is $-(CH_2)_m-$, m is 1, X is H and
R is H , a cation or phenyl; and

(iii) compounds wherein Y is $-CH(OH)-$, X is H and R is

H, a cation or phenyl.

24.   (currently amended)   A compound according to
Claim 22, selected from the group consisting of:

~~(i) phenyl 1,2 cyclic glycerophosphate;~~

(~~ii~~i) phenyl cyclic dihydroxyacetone phosphate; and

(~~iii~~ii) cyclic oleyl lysophosphatidic acid.

25.   (currently amended)   A method for treatment of
~~breast cancer or~~ blood malignancy comprising administering to
the individual in need a therapeutically effective amount of a
compound as defined in Claim 23.

26.   (previously presented)   A method for treatment
of breast cancer or prostate cancer comprising administering
to the individual in need a therapeutically effective amount
of a compound as defined in claim 22.

27.   (Previously Presented)   A method for the
treatment of breast cancer or prostate cancer comprising
administering to an individual in need a therapeutically
effective amount of a compound as defined in claim 23.

28. (currently amended) A method according to Claim 27 25, wherein said malignant disease or disorder is blood malignancy.

29. (Previously Presented) A method according to Claim 28, wherein said blood malignancy is leukemia.

30. (Previously Presented) A method according to Claim 27, wherein said malignant disease is breast cancer.

31. (currently amended) A method for the treatment of diseases involving associated with hormone-like signaling wherein the hormone is selected from the group consisting of insulin, human growth hormone or and epidermal growth factor signaling, comprising administering to an individual in need a therapeutically effective amount of a compound as defined in Claim 23.

32. (currently amended) A method for the treatment of diseases involving associated with hormone-like signaling wherein the hormone is selected from the group consisting of insulin, human growth hormone or and epidermal growth factor signaling, comprising administering to an individual in need a therapeutically effective amount of a compound as defined in claim 22.

33. (Previously Presented) A method according to Claim 31 or 32, wherein said hormone is insulin and the disease treated is non-IDDM type II diabetes.

34. (Previously Presented) A method according to Claim 31 or 32, wherein said hormone is human growth hormone (HGH) and the diseases treated are disorders in which HGH is involved.

35. (Previously Presented) A method according to Claim 31 or 32, wherein said hormone is epidermal growth factor (EGF) and the diseases treated are disorders involving EGF.

36. (currently amended) A method for detecting abnormal conditions of a tested cell for breast cancer or blood malignancy, comprising:

(i) contacting the ~~cells~~ cell with a cyclic glycerophosphate ~~glycerophosphates~~ or ~~their analogs~~ analog thereof (herein CGs) as defined in ~~Claim 13~~ claim 1;

(ii) detecting the level of phosphorylation in intracellular proteins of the tested cells; and

(iii) comparing said level of phosphorylation to the level of phosphorylation in intracellular proteins of normal cells following contact with said CGs, a

level of phosphorylation differing from that

detected in the normal cells indicating a high

probability of abnormality in the tested cells.

37.   (currently amended)   A method for detecting

abnormal conditions of a tested cell for breast cancer or

prostrate cancer, comprising:

(i)   contacting the cells with a cyclic glycerophosphate

~~glycerophosphates~~ or ~~their analogs~~ analog thereof

(herein CGs) as defined in ~~Claim 13~~ claim 2;

(ii) detecting the level of phosphorylation in

intracellular proteins of the tested cells; and

(iii) comparing said level of phosphorylation to the level

of phosphorylation in intracellular proteins of

normal cells following contact with said CGs, a

level of phosphorylation differing from that

detected in the normal cells indicating a high

probability of abnormality in the tested cells,

wherein said compound is as defined in claim 1.

38-45.   (Canceled)

46.   (currently amended)   A method for treatment of

prostate cancer or breast cancer, comprising administering to

~~the~~ an individual in need thereof a therapeutically effective

amount of a ~~compound~~ composition as defined in   claim 1.